



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

4. *Lithobius lapidicola* Meinert.

Two specimens, male and female. Joints of antennæ 26; ocelli 8 or 9, in three series; coxal pores male 2, 3, 3, 2, female 3, 4, 4, 3; spines of first pair of legs, 0, 1, 1; of penultimate pair, 1, 3, 3, 1; of anal pair, 1, 3, 2, 0; spines of female genitalia stout, claw very distinctly tripartite, middle lobe not much longer; length male 7^{mm}; female 8^{mm}.

It is very probable that these specimens are not identical with *L. lapidicola*, a European species; but as they are rather mutilated, I have hesitated to describe them as new.

MAY 7.

The President, Dr. JOSEPH LEIDY, in the chair.

Fifty persons present.

The following papers were presented for publication:

"Catalogue of the Asteroidea and Ophiuroidea in the collection of the Academy of Natural Sciences of Philadelphia," by J. E. Ives.

"Provisional List of the Plants of the Bahama Islands," by John Gardiner and L. J. K. Brace.

The Proceedings of the Botanical Section having precedence the following communications were made:—

On the Use of the Bambusa Stem, in Incandescent Electric Lighting.—PROF. WM. P. WILSON stated that the ordinary exogenous woods are not adapted to the construction of the filament for want of a homogeneous structure. Such woods are made up of wood-cells of varying lengths and shapes in combination with a variety of ducts and vessels.

The walls of the wood-cells may be more or less thickened, the vessels and ducts may be larger or smaller, numerous or infrequent according to the kind of wood examined. There are always enough of these vessels and ducts combined with the wood-cells in any stem to render the structure exceedingly heterogeneous. Most of these cells and vessels have their longer diameter parallel with the general direction of the stem. Groups of thin walled, prismatic cells pass radially from the central portion of the stem to the circumference. These groups of cells are called medullary rays. It is impossible to cut a filament from any of these woods and so cut it that the medullary rays will not cross it many times at right angles to the ducts and long cells. The character of the cells forming these rays is so very different from the others in the filament, both as to shape, direction, and thickness of the walls, that at the

crossing points resistance is greatly increased, thus causing rapid burning and destruction at such points.

Such woods as Hickory and Rock-Elm furnish the very best of our timbers. They are the toughest and most durable of our woods; but they do not make good filaments. The medullary rays are very numerous and the walls of the cells composing them greatly thickened. The long, pointed, thick-walled wood-cells do not follow a parallel course, but interlace with each other. This interlacing of the cells gives to these woods their toughness. It is the main characteristic also which renders them worthless when made into electric filaments. Upon carbonization of such filaments the tension of the interlacing cells is relieved and the tissues composing it become friable and easily fall apart.

In the adult stem of the *Bambusa* a combination of anatomical characters has brought about a result which makes it the most fitting material so far as now known for the electric filament.

The nearly parallel fibro-vascular bundles grow more numerous as they approach the circumference of the stem and as is usual in similar stems lose most, or sometimes all, of the woody elements, thus becoming pure bast. The parenchymatic tissue which toward the center of the stem may be composed of a layer of five or six cells between the bundles, decreases in amount near the circumference until but one layer of cells remains. The walls of the cells in this single layer often become so thickened, and at the same time compressed by the growth of the bast, that these bundles appear to make a solid zone of bast around the circumference of the stem. The bast-cells also continue to thicken their walls until they become, in the best specimens for the filament, completely filled and solid.

It is from this zone of bast at the circumference of the stem that the filament is always taken.

The following characters will be found to exist in such a filament: Bast fibers solid; very compact without inter-cellular spaces; nearly parallel; joined together by mitred ends thus appearing as continuous fibres; the presence of a minimum amount of parenchyma possible in such filament; a sufficient amount of cohesion between the separate fibres to often cause the separation of bast-cells in halves upon splitting the material.

These characters secure the least possible diversification of cells, *i.e.*, the most homogeneous structure which can be secured where long, solid fibers are sought. This filament is perhaps the nearest approach, in its continuity of structure and uniform character, to a metallic conductor of any tissue which can be found in the vegetable kingdom.

The Botany of the Bahamas.—PROF. CHARLES S. DOLLEY remarked that the list of Bahama plants which he presented for publication this evening represents one hundred and fifteen families, four hundred and ten genera, and six hundred and twenty-one species. One-third of the families (forty-seven) are represented by but one